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10/027,412	12/21/2001	Santhi E. Mathew	105690.125	2727

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EXAMINER

ELLINGTON, ALANDRA

ART UNIT PAPER NUMBER

2855

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/027,412

Applicant(s)

MATHEW ET AL.

Examiner

Alandra N Ellington

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on amendment filed on 2/20/04.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,7,9-11 and 16-19 is/are rejected.
- 7) ☒ Claim(s) 4-6,8,12-15 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2001 and 20 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Replacement drawings 2/20/04.

**Final Rejection**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Tada et al (4,815,324).

- a. With respect to Claim 1, Tada et al discloses a pressure transducer assembly, comprising: a pressure transducer 18, the transducer 18 generating a first output signal representative of a sensed pressure (col. 4 lines 1-7); a shaping circuit 17, the circuit 17 generating a second output signal (col. 4 lines 15-19), the second output signal being generated according to a first function of the first output signal when the first output signal is less than a first value, the second output signal being generated according to a second function of the first output signal when the first output signal is greater than a second value, the first function being different than the second function (col. 4 lines 1-42 {Figs. 2(a,c-d)}).
- b. With respect to Claim 2, Tada et al discloses the pressure transducer assembly of claim 1, wherein the first function is a linear function and the second function is a linear function (col. 4 lines 15-19, col. 5 lines 26-34 {Figs. 2(c-d)}).

- c. With respect to Claims 3 and 12, Tada et al discloses the pressure transducer assembly of claim 2, wherein the first function is characterized by a first slope and the second function is characterized by a second slope, wherein the first slope is greater than the second slope {Figs. 2(c-d)}).
- d. With respect to Claim 9, Tada et al discloses the pressure transducer assembly of claim 1, wherein the range of the first output signal is the same as the range of the second output signal ({Figs. 2(c-d)}).
- e. With respect to Claim 10, Tada et al discloses a method of generating an output signal for a pressure transducer 18, the method comprising generating the output signal according to a first function of a sensed pressure (col. 4 lines 1-7) when the sensed pressure is less than a first value and generating the output signal according to a second function of the sensed pressure when the sensed pressure is greater than a second value, the second function being different than the first function (col. 4 lines 15-42 {Figs. 2(c-d)}).
- f. With respect to Claim 11, Tada et al discloses the method of claim 10, wherein the first function is a linear function and the second function is a linear function (col. 4 lines 15-19, col. 5 lines 26-34 {Figs. 2(c-d)}).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tada et al (4,815,324) in view of the applicant's admitted prior art (AAPA).

a. With respect to Claim 7, Tada et al discloses the claimed invention except for the first output signal being at approximately 10% of a total sensed pressure range of the pressure transducer. AAPA teaches a pressure transducer assembly having an output signal being at approximately 10% of a total sensed pressure range of a pressure transducer (see AAPA, pg. 5 lines 2-3). It would have been obvious at the time the invention was made to one having ordinary skill in the art to modify Tada et al with the teachings of AAPA to include the first output signal being at approximately 10% of a total sensed pressure range of the pressure transducer for the purpose of operating the pressure transducer within a desired operating range in order to receive accurate measurements without comprising system requirements (see AAPA, pg. 4 lines 5-20).

5. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tada et al (4,815,324) in view Denner (5,911,162).

*The applied reference has a common assignee with the instant application.*

*Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome*

*by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).*

- a. With respect to Claim 16, Tada et al discloses a pressure transducer assembly with a pressure transducer 18 producing a first output signal, the first output signal being substantially linear (col. 4 lines 1-7,15-19); and a shaping electrical circuit 17 producing a shaped output signal that is a first function of the first output signal when the first output signal is below a certain value, and a second function of the first output signal when the first output signal is above a certain value, the first function being different from the second function (col. 4 lines 1-19), the electrical circuit comprising a first amplifier stage 19 for generating a shaping function (col. 4 lines 1-42

{Figs. 2(a,c-d)}). However, Tada et al does not specifically teach a capacitive pressure transducer. Denner discloses a capacitive pressure transducer 100 ({Fig. 1A}). It would have been obvious at the time the invention was made to one having ordinary skill in the art to modify Tada et al with the teachings Denner to include a capacitive pressure transducer for the purpose of physically sensing pressure being measured and to produce electrical output signals of the sensed pressure.

- b. With respect to Claim 17, Tada et al discloses the shaping function with a first slope and a second slope that are different ({Figs. 2(c-d)}).
- c. With respect to Claim 18, Tada et al discloses a second amplifier stage 20 for applying the shaping function to the intermediate output signal (col. 4 lines 10-24, col. 5 lines 28-34).
- d. With respect to Claim 19, Tada et al discloses a second amplifier stage 20 with a summing amplifier configuration and sums the intermediate output signal with the shaping function (col. 4 lines 10-24, col. 5 lines 28-34).

#### ***Allowable Subject Matter***

6. Claims 4-6, 8, 12-15 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

7. Applicant's arguments filed 2/20/04 have been fully considered but they are not persuasive.

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8. Applicant argues that Tada et al fails to teach the first output signal being shaped using a first function for small values and a second function for large values.

Examiner's position is that this statement is not cited in any of the claims presented by applicant.

9. Applicant argues that Tada et al fails to teach that the two functions are different. In respect to claims 1, 10 and 16, the examiner's position is that Tada et al discloses that both functions are different (refer to Tada et al, col. 4 lines 5-24 {Fig. 2}). Tada et al discloses that the first signal output is from pressure sensor 18. Moreover, Tada et al teaches that the signal inputted into the shaping circuit 17 is formed from the outputs of circuits 16 and 21. Therefore, the signal/function of the pressure sensor 18 is not the same signal/function that is outputted from the shaping circuit 17.

10. Applicant argues that Tada et al fails to teach a first function and a second function applied to all frequencies of a first output signal, including both an AC component and a DC component. Examiner's position is that this statement is not cited in any of the claims presented by applicant.

11. The applicant fails to disclose/claim the contents and/or algebraic definition of the first and second functions. Also, the applicant fails to disclose actual values or numbers in regards to the claimed first and second values. With respect to the argument, the applicant claims that *the second output signal being generated according to a first function of the first output signal when **the first output signal is less than a first value**, the second output signal being generated according to a second function of the first output signal when **the first output signal is greater than a second value***. Since,



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the applicant fails to disclose any values and/or how the first and second values are formulated, the examiner is broadly interpreting the claim language.

**Conclusion**

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

13. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alandra N Ellington whose telephone number is (571) 272-2178. The examiner can normally be reached on Monday - Friday, 7:30am - 4:00pm.

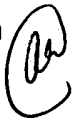
15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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